

41. (New) A method for cropping a graphical image, comprising the steps of:
detecting a face in a digital image of a picture; and
automatically cropping the digital image based on a size of the face relative to the digital
image.

42. (New) The method of claim 41, wherein the step of automatically cropping further
comprises the step of moving the face closer to a center of the picture.

43. (New) The method of claim 41, wherein the step of automatically cropping further
comprises the step of moving the face higher in the picture.

REMARKS

This is a full and timely response to the non-final Office Action of March 27, 2003.
Reexamination, reconsideration, and allowance of the application and all presently pending
claims are respectfully requested.

Upon entry of this First Response, claims 1-43 are pending in this application. Claims
1, 2, 10, 13, 16, 17, and 20 are directly amended herein, and claims 23-43 are newly added. It is
believed that the foregoing amendments add no new matter to the present application.

Response to §102 Rejections

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art
reference disclose each element of the claim. See, *e.g.*, *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983).

Claim 1

Claim 1 presently stands rejected under 35 U.S.C. §102 as allegedly being anticipated by *Bollman*. Claim 1, as amended, reads as follows:

1. A system for automatically cropping graphical images, comprising:
memory for storing digital data that defines a graphical image;
**an object detector configured to perform a search of said digital data
for an object of a particular type and to automatically identify, based on said
search, a portion of said digital data that defines an image of an object of said
particular type within said graphical image; and**
**an image cropper configured to automatically crop said digital data
based on a position of said object image within said graphical image,** said
image cropper configured to determine said position of said object image within
said graphical image based on said portion automatically identified by said
object detector. (Emphasis added).

Applicant respectfully asserts that *Bollman* fails to disclose at least the features of claim 1 highlighted above. Therefore, *Bollman* is inadequate to reject claim 1 under 35 U.S.C. §102.

In this regard, *Bollman* appears to describe a method for automatic cropping of images containing regions where intensity levels vary considerably. See Abstract. In particular, *Bollman* appears to divide an image into a plurality of blocks and to then determine the mean intensity level of each block. See column 3, lines 52-54, and column 4, lines 1-10. *Bollman* apparently then performs a statistical analysis to determine a threshold variance based on the variance distribution of the blocks. See column 4, lines 20-27. All blocks with a variance higher than this threshold are selected as “regions of interest.” Column 4, lines 26-28.

However, there is nothing in *Bollman* to indicate that the digital data is searched for an object of a particular type. Thus, *Bollman* fails to disclose at least the features of searching digital data “for an object of a particular type” and of automatically identifying “a portion of said digital data that defines an image of an object of said particular type within said graphical image,” as described by pending claim 1.

For at least the foregoing reasons, Applicant asserts that *Bollman* fails to disclose each element of claim 1, as amended, and the rejection of claim 1 under 35 U.S.C. §102 should, therefore, be withdrawn.

Claims 2-4, 6-8, and 23-25

Claims 2-4 and 6-8 presently stand rejected in the Office Action under 35 U.S.C. §102 as allegedly being anticipated by *Bollman*. Furthermore, claims 23-25 have been newly added via the amendments set forth herein. Applicant submits that the pending dependent claims 2-4, 6-8, and 23-25 contain all features of their respective independent claim 1. Since claim 1 should be allowed, as argued hereinabove, pending dependent claims 2-4, 6-8, and 23-25 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 1.

As one example, claim 2 recites “wherein said object detector is configured to search said digital data for facial images.” *Bollman* does not teach searching digital data for “facial images.” Thus, *Bollman* fails to disclose at least the foregoing features of claim 2, and the rejection of this claim should be withdrawn, notwithstanding the allowability of claim 1.

Claim 5

Claim 5 presently stands rejected under 35 U.S.C. §102 as allegedly being anticipated by *Bollman*. Claim 5, as amended, reads as follows:

5. A system for automatically cropping graphical images, comprising:
memory for storing digital data that defines a graphical image;
***an object detector configured to analyze said digital data and to
automatically identify a graphical object within said graphical image; and
an image cropper configured to automatically crop said digital data
based on a position of said graphical object within said graphical image such
that said graphical object is removed from said graphical image.*** (Emphasis
added).

Applicant respectfully asserts that *Bollman* fails to disclose at least the features of claim 5 highlighted above. Therefore, *Bollman* is inadequate to reject claim 5 under 35 U.S.C. §102.

In rejecting claim 5, it is asserted in the Office Action that:

“*Bollman et al* discloses wherein said image cropper is configured to crop said digital data based on said position of said object image such that said portion is removed from said digital data that defines said graphical image (column 1 lines 16-23).”

Applicant respectfully asserts that the Examiner has misconstrued *Bollman*. Column 1, lines 16-23 are reproduced for clarity:

“Frequently, it is desirable to select only a particular region of an image, and to reproduce the selected region, thereby eliminating unwanted or excess background to give the image a more desirable composition. This selection process is referred to as cropping. Often, images are cropped to the foreground and most of the background is discarded.”

Neither this section nor the entire disclosure of *Bollman* teach Applicant’s claimed invention.

As an example, claim 5 recites “an image cropper configured to automatically crop said digital data based on a position of said graphical object within said graphical image such that said graphical object is removed from said graphical image.” No where in *Bollman* is this recitation taught or suggested.

For at least the foregoing reasons, Applicant submits that *Bollman* fails to disclose each feature of claim 5. Accordingly, the 35 U.S.C. §102 rejection of claim 5 is improper and should be withdrawn.

Claim 9

Claim 9 presently stands rejected under 35 U.S.C. §102 as allegedly being anticipated by *Bollman*. Claim 9, as amended, reads as follows:

9. A system for automatically cropping graphical images, comprising:
memory for storing digital data that defines a graphical image;
means for performing a search of said digital data for an object of a particular type and for automatically identifying, based on said search, a portion of said digital data that defines an image of an object of said particular type within said graphical image; and
means for automatically cropping said digital data based on a position of said object image within said graphical image, said cropping means configured to determine said position of said object image within said graphical image based on said portion automatically identified by said identifying means.
(Emphasis added).

For at least the reasons set forth above in the arguments for allowance of claim 1, Applicant submits that *Bollman* fails to disclose at least the features of claim 9 highlighted hereinabove. Thus, the 35 U.S.C. §102 rejection of claim 9 should be withdrawn.

Claims 10-15

Claims 10-15 presently stand rejected in the Office Action under 35 U.S.C. §102 as allegedly being anticipated by *Bollman*. Applicant submits that the pending dependent claims 10-15 contain all features of their respective independent claim 9. Since claim 9 should be allowed, as argued hereinabove, pending dependent claims 10-15 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 9.

As an example, claim 10 recites “wherein said identifying means is configured to search said digital data for facial images.” For at least the reasons set forth hereinabove in the arguments for allowance of claim 2, Applicant submits that *Bollman* fails to disclose at least the foregoing features of claim 10. Thus, the rejection of claim 10 is improper and should be withdrawn, notwithstanding the allowability of claim 9.

In addition, claim 13 recites “wherein said cropping means crops said digital data based on said position of said object image such that said object image is completely removed from said graphical image.” Applicant asserts that *Bollman* fails to disclose at least the foregoing features of claim 13, and the rejection of this claim under 35 U.S.C. §102 is, therefore, improper and should be withdrawn, notwithstanding the allowability of claim 9.

Claim 16

Claim 16 presently stands rejected under 35 U.S.C. §102 as allegedly being anticipated by *Bollman*. Claim 16, as amended, reads as follows:

16. A method for automatically cropping graphical images, comprising the steps of:
storing digital data that defines a graphical image;
automatically searching said digital data for an object of a particular type;
identifying, based on said searching step, a portion of said digital data that defines an image of an object of said particular type;
determining, based on said identified portion, a position of said object image within said graphical image; and
automatically cropping said digital data based on said position of said object image. (Emphasis added).

For at least the reasons set forth above in the arguments for allowance of claim 1, Applicant submits that *Bollman* fails to disclose at least the features of claim 16 highlighted hereinabove. Thus, the 35 U.S.C. §102 rejection of claim 16 should be withdrawn.

Claims 17-22 and 27-29

Claims 17-22 presently stand rejected in the Office Action under 35 U.S.C. §102 as allegedly being anticipated by *Bollman*. Furthermore, claims 27-29 have been newly added via the amendments set forth herein. Applicant submits that the pending dependent claims 17-22 and 27-29 contain all features of their respective independent claim 16. Since claim 16 should be allowed, as argued hereinabove, pending dependent claims 17-22 and 27-29 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 16.

As an example, claim 20 recites “removing, via said cropping step, said object image from said graphical image.” For at least the reasons set forth hereinabove in the arguments for allowance of claim 5, Applicant submits that *Bollman* fails to disclose at least the foregoing features of claim 20. Thus, the rejection of claim 20 is improper and should be withdrawn, notwithstanding the allowability of claim 16.

In addition, claim 21 recites “wherein said searching and cropping steps are automatically performed in response to said storing step.” Applicant asserts that *Bollman* fails to disclose at least the foregoing features of claim 21, and the rejection of this claim under 35 U.S.C. §102 should, therefore, be withdrawn, notwithstanding the allowability of claim 16.

Claim 26

Claim 26 has been newly added via the amendments set forth herein. Applicant submits that the pending dependent claim 26 contains all features of its respective independent claim 5. Since claim 5 should be allowed, as argued hereinabove, pending dependent claim 26 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 30

Claim 30 has been newly added via the amendments set forth herein. Claim 30 presently reads as follows:

30. A system for automatically cropping graphical images, comprising:
memory for storing digital data that defines a graphical image;
an object detector configured to make a determination as to whether a
portion of said digital data defines a facial image; and
an image cropper configured to automatically crop said digital data based
on said determination.

Applicant submits that the cited art fails to disclose or suggest each of the above features of claim 30. Thus, Applicant respectfully asserts that claim 30 is allowable.

Claims 31 and 32

Claims 31 and 32 have been newly added via the amendments set forth herein. Applicant submits that the pending dependent claims 31 and 32 contain all features of their respective independent claim 30. Since claim 30 should be allowed, as argued hereinabove, pending dependent claims 31 and 32 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 33

Claim 33 has been newly added via the amendments set forth herein. Claim 33 presently reads as follows:

33. A method for automatically cropping graphical images, comprising the steps of:
storing digital data that defines a graphical image;
determining whether a portion of said digital data defines a facial image;
and
automatically cropping said digital data based on said determining step.

Applicant submits that the cited art fails to disclose or suggest each of the above features of claim 33. Thus, Applicant respectfully asserts that claim 33 is allowable.

Claims 34 and 35

Claims 34 and 35 have been newly added via the amendments set forth herein.

Applicant submits that the pending dependent claims 34 and 35 contain all features of their respective independent claim 33. Since claim 33 should be allowed, as argued hereinabove, pending dependent claims 34 and 35 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 36

Claim 36 has been newly added via the amendments set forth herein. Claim 36 presently reads as follows:

36. A method for cropping a graphical image, comprising the steps of:
detecting a plurality of faces in the graphical image;
determining if one of the faces is close to a center of the graphical image;
and
automatically cropping the graphical image.

Applicant submits that the cited art fails to disclose or suggest each of the above features of claim 36. Thus, Applicant respectfully asserts that claim 36 is allowable.

Claims 37-40

Claims 37-40 have been newly added via the amendments set forth herein. Applicant submits that the pending dependent claims 37-40 contain all features of their respective independent claim 36. Since claim 36 should be allowed, as argued hereinabove, pending dependent claims 37-40 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 41

Claim 41 has been newly added via the amendments set forth herein. Claim 41 presently reads as follows:

41. A method for cropping a graphical image, comprising the steps of:
detecting a face in a digital image of a picture; and
automatically cropping the digital image based on a size of the face relative to the digital image.

Applicant submits that the cited art fails to disclose or suggest each of the above features of claim 41. Thus, Applicant respectfully asserts that claim 41 is allowable.

Claims 42 and 43

Claims 42 and 43 have been newly added via the amendments set forth herein. Applicant submits that the pending dependent claims 42 and 43 contain all features of their respective independent claim 41. Since claim 41 should be allowed, as argued hereinabove,

pending dependent claims 42 and 43 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).


CONCLUSION

Applicant respectfully requests that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicant's response, the Examiner is encouraged to telephone Applicant's undersigned counsel.

Respectfully submitted ,

**THOMAS, KAYDEN, HORSTEMEYER
& RISLEY, L.L.P.**

By:


Jon E. Holland
Reg. No. 41,077
(256) 704-3900 Ext. 103

Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400

ANNOTATED VERSION OF MODIFIED CLAIMS

TO SHOW CHANGES MADE

The following is a marked up version of the amended claims, wherein brackets denote deletions and underlining denotes additions.

1. (Once Amended) A system for automatically cropping graphical images, comprising:
 - memory for storing digital data that defines a graphical image;
 - an object detector configured to [analyze] perform a search of said digital data for an object of a particular type and to automatically identify, based on said search, a portion of said digital data that defines an image of an object of said particular type within said graphical image; and
 - an image cropper configured to automatically crop said digital data based on a position of said object image within said graphical image, said image cropper configured to determine said position of said object image within said graphical image based on said portion automatically identified by said object detector.
2. (Once Amended) The system of claim 1, wherein said object image is an image of a person's face, and wherein said object detector is configured to search said digital data for [portions that define] facial images.

5. (Once Amended) [The system of claim 1, wherein said image cropper is configured to crop said digital data based on said position of said object image] A system for automatically cropping graphical images, comprising:

memory for storing digital data that defines a graphical image;

an object detector configured to analyze said digital data and to automatically identify a graphical object within said graphical image; and

an image cropper configured to automatically crop said digital data based on a position of said graphical object within said graphical image such that said [portion] graphical object is removed from said [digital data that defines said] graphical image.

9. (New) A system for automatically cropping graphical images, comprising:

memory for storing digital data that defines a graphical image;

means for performing a search of said digital data for an object of a particular type and for automatically identifying, based on said search, a portion of said digital data that defines an image of an object of said particular type within said graphical image; and

means for automatically cropping said digital data based on a position of said object image within said graphical image, said cropping means configured to determine said position of said object image within said graphical image based on said portion automatically identified by said identifying means.

10. (Once Amended) The system of claim 9, wherein said object image is an image of a person's face, and wherein said identifying means is configured to search said digital data for [portions that define] facial images.

13. (Once Amended) The system of claim 9, wherein said cropping means crops said digital data based on said position of said object image such that said [portion] object image is completely removed from [said digital data that defines] said graphical image.

16. (Once Amended) A method for automatically cropping graphical images, comprising the steps of:

storing digital data that defines a graphical image;

automatically searching said digital data for an object of a particular type [a portion of said digital data that defines an image of a particular object];

identifying, [said portion] based on said searching step, a portion of said digital data that defines an image of an object of said particular type;

determining, based on said identified portion, a position of said object image within said graphical image; and

automatically cropping said digital data based on said position of said object image.

17. (Once Amended) The method of claim 16, wherein said [particular] object image comprises [is] an image of a person's face.

20. (Once Amended) The method of claim 16, further comprising the step of:

removing, via said cropping step, said object image from [portion from said digital data that defines] said graphical image.